

29 CFR 1910.110 (b)(13)(ii)(b)(7)(iii)

**PINK - FULL COLUMN
WIDTH**

Portable containers shall not be
taken into buildings except as provided in
paragraph (b)(6)(i) of this section.

<u>TITLE</u>	<u>CODE OF FED. REG.</u>	<u>PART</u>	<u>SECTION</u>		
29	CFR	1910	.110	(b)(13)(ii)	(b)[*](7)(iii)

**YELLOW - FULL COLUMN
WIDTH
LOWER CASE ALPHABETICAL**

**● DOT - YELLOW
ARABIC NUMBER**

LOWER CASE ROMAN

ITALICIZED

*Standards promulgated after 1979 may be identified
as follows: 1910.304(f)(5)(iv)(F)(I). A capital letter is
used instead of an italicized one in the fourth set of
parentheses.

TABLE O-2—EXPOSURE VERSUS WHEEL THICKNESS
[In inches]

Overall thickness of wheel (T)	Maximum exposure of wheel (C)
1/2	1/4
1	1/2
2	3/4
3	1
4	1 1/2
5 and over	2

TABLE O-4—MINIMUM DIMENSIONS FOR STRAIGHT UNRELIEVED FLANGES FOR WHEELS WITH THREADED INSERTS OR PROJECTING STUDS

A—Diameter of wheel	B ¹ —Minimum outside diameter of flange	T—Minimum thickness of flange
1	3/8	1/8
2	1	1/8
3	1	3/16
4	1 3/8	3/16
5	1 3/4	1/4
6	2	3/8

¹ NOTE: Must be large enough to extend beyond the bushing. Where prong anchor or cupback bushing are used, this footnote does not apply.

(Secs. 4(b)(2), 6(6) and 8(c), 84 Stat. 1592, 1593, 1596, 29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 8-76 (41 FR 25059); 29 CFR Part 1911; secs. 6, 8, 84 Stat. 1593, 1600 (29 U.S.C. 655, 657), Secretary of Labor's Order No. 9-83 (48 FR 35736), 29 CFR Part 1911)

[39 FR 23502, June 27, 1974, as amended at 43 FR 49750, Oct. 24, 1978; 49 FR 5323, Feb. 10, 1984]

§ 1910.216 Mills and calenders in the rubber and plastics industries.

(a) **General requirements**—(1) **New installations.** All new installations on or after August 31, 1971, shall be in conformity with this section.

(2) **Existing installations.** All existing plant installations or equipment contracted for prior to August 31, 1971, shall comply with this section.

(3) **Auxiliary equipment.** Mechanical and electrical equipment and auxiliaries shall be installed in accordance with this section and Subpart S of this part.

(4) **Mill roll heights.** All new mill installations shall be installed so that the top of the operating rolls is not

less than 50 inches above the level on which the operator stands, irrespective of the size of the mill. This distance shall apply to the actual working level, whether it be at the general floor level, in a pit, or on a platform.

(b) **Mill safety controls**—(1) **Safety trip control.** A safety trip control shall be provided in front and in back of each mill. It shall be accessible and shall operate readily on contact. The safety trip control shall be one of the following types or a combination thereof:

(i) **Pressure-sensitive body bars.** Installed at front and back of each mill having a 46-inch roll height or over. These bars shall operate readily by pressure of the mill operator's body.

(ii) **Safety trip rod.** Installed in the front and in the back of each mill and located within 2 inches of a vertical plane tangent to the front and rear rolls. The top rods shall be not more than 72 inches above the level on which the operator stands. The trip rods shall be accessible and shall operate readily whether the rods are pushed or pulled.

(iii) **Safety tripwire cable or wire center cord.** Installed in the front and in the back of each mill and located within 2 inches of a vertical plane tangent to the front and rear rolls. The cables shall not be more than 72 inches above the level on which the operator stands. The tripwire cable or wire center cord shall operate readily whether cable or cord is pushed or pulled.

(2) [Reserved]

(3) **Auxiliary equipment.** All auxiliary equipment such as mill divider, support bars, spray pipes, feed conveyors, strip knives, etc., shall be located in such a manner as to avoid interference with access to and operation of safety devices.

(c) **Calender safety controls**—(1) **Safety trip, face.** A safety trip rod, cable, or wire center cord shall be provided across each pair of in-running rolls extending the length of the face of the rolls. It shall be readily accessible and operate whether pushed or pulled. The safety tripping devices shall be located within reach of the operator and the bite.

(2) *Safety trip, side.* On both sides of the calender and near each end of the face of the roll, there shall be a cable or wire center cord connected to the safety trip. They shall operate readily when pushed or pulled.

(d) *Protection by location—(1) Mills.* Where a mill is so installed that persons cannot normally reach through, over, under, or around to come in contact with the roll bite or be caught between a roll and an adjacent object, then, provided such elements are made a fixed part of a mill, safety control devices listed in paragraph (b) of this section shall not apply.

(2) *Calenders.* Where a calender is so installed that persons cannot normally reach through, over, under, or around to come in contact with the roll bite or be caught between a roll and an adjacent object, then, provided such elements are made a fixed part of a calender, safety control devices listed in paragraph (c) of this section shall not apply.

(e) *Trip and emergency switches.* All trip and emergency switches shall not be of the automatically resetting type, but shall require manual resetting.

(f) *Stopping limits—(1) Determination of distance of travel.* All measurements on mills and calenders shall be taken with the rolls running empty at maximum operating speed. Stopping distances shall be expressed in inches of surface travel of the roll from the instant the emergency stopping device is actuated.

(2) *Stopping limits for mills.* All mills irrespective of the size of the rolls or their arrangement (individually or group-driven) shall be stopped within a distance, as measured in inches of surface travel, not greater than 1½ percent of the peripheral no-load surface speeds of the respective rolls as determined in feet per minute.

(3) *Stopping limits for calenders.* (i) All calenders, irrespective of size of the rolls or their configuration, shall be stopped within a distance, as measured in inches of surface travel, not greater than 1¼ percent of the peripheral no-load surface speeds of the respective calender rolls as determined in feet per minute.

(ii) Where speeds above 250 feet per minute as measured on the surface of

the drive roll are used, stopping distances of more than 1¼ percent are permissible. Such stopping distances shall be subject to engineering determination.

(Secs. 6, 8, 84 Stat. 1593, 1600 (29 U.S.C. 655, 657), Secretary of Labor's Order No. 9-83 (48 FR 35736), 29 CFR Part 1911)

[39 FR 23502, June 27, 1974, as amended at 49 FR 5323, Feb. 10, 1984]

§ 1910.217 Mechanical power presses.

(a) General requirements.

(1)–(3) [Reserved]

(4) *Reconstruction and modification.* It shall be the responsibility of any person reconstructing, or modifying a mechanical power press to do so in accordance with paragraph (b) of this section.

(5) *Excluded machines.* Press brakes, hydraulic and pneumatic power presses, bulldozers, hot bending and hot metal presses, forging presses and hammers, riveting machines and similar types of fastener applicators are excluded from the requirements of this section.

(b) *Mechanical power press guarding and construction, general—(1) Hazards to personnel associated with broken or falling machine components.* Machine components shall be designed, secured, or covered to minimize hazards caused by breakage, or loosening and falling or release of mechanical energy (i.e. broken springs).

(2) *Brakes.* Friction brakes provided for stopping or holding a slide movement shall be inherently self-engaging by requiring power or force from an external source to cause disengagement. Brake capacity shall be sufficient to stop the motion of the slide quickly and capable of holding the slide and its attachments at any point in its travel.

(3) *Machines using full revolution positive clutches.* (i) Machines using full revolution clutches shall incorporate a single-stroke mechanism.

(ii) If the single-stroke mechanism is dependent upon spring action, the spring(s) shall be of the compression type, operating on a rod or guided within a hole or tube, and designed to prevent interleaving of the spring coils in event of breakage.